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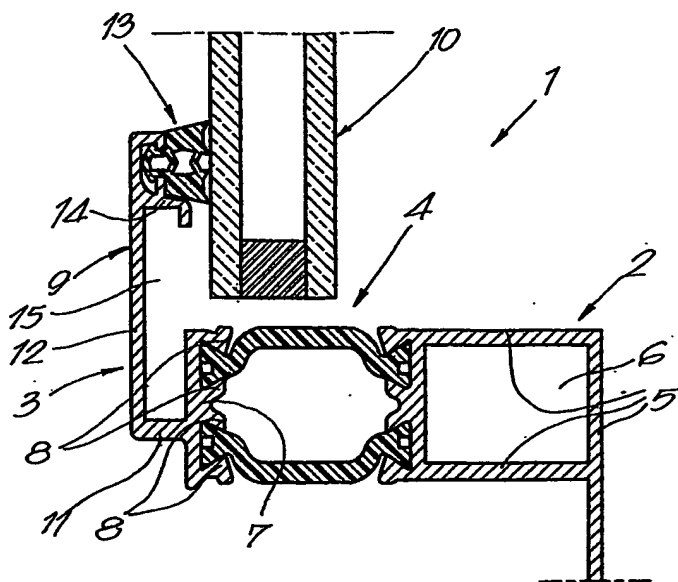
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(54) Title: **PROFILE OF A WINDOW FRAME OR THE LIKE AND SEALING USED WITH SUCH A PROFILE**



(57) Abstract: Profile of a window frame which is mainly composed of an inner shell (2) and an outer shell (3) which are mutually coupled by means of a thermal bridge (4), whereby the outer shell (3) is provided with an inwardly directed reinforcement strip (9) in relation to the window frame, characterised in that the outer shell (3) is provided with a chamber (15) which is confined by two opposite walls (11, 14) in between which can be clasped a leg of an insert angle (26), which walls (11, 14) extend crosswise to the surface of the window frame, one wall (14) of which is formed of a standing edge at the free end of the reinforcement strip (9) whereas the other wall (11) is part of the outer perimeter of the window frame.



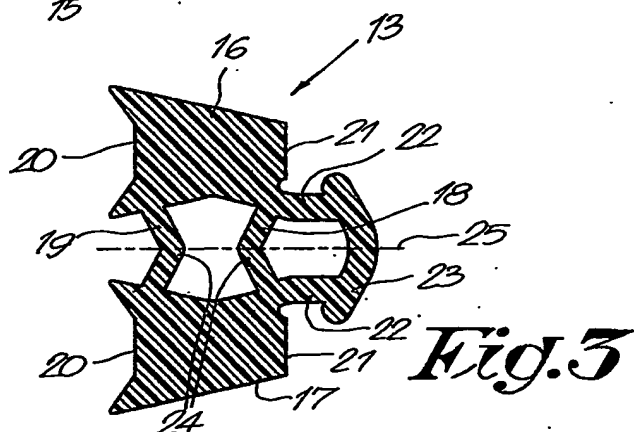
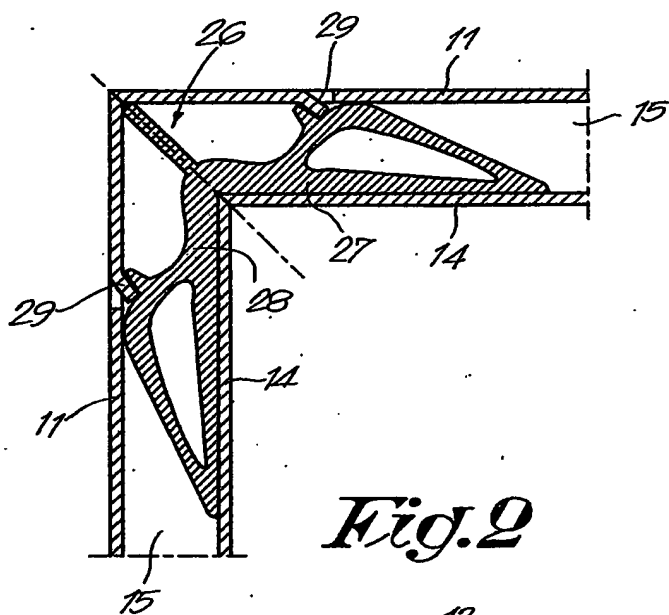
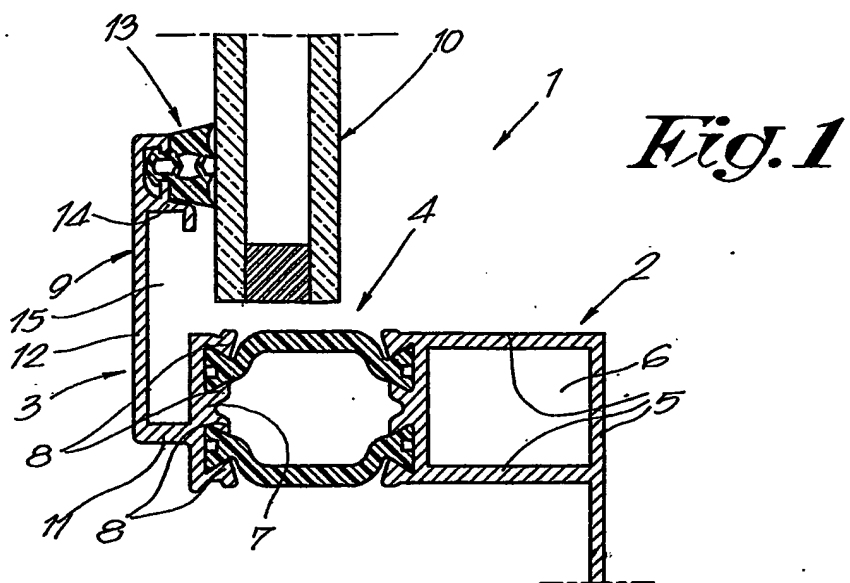
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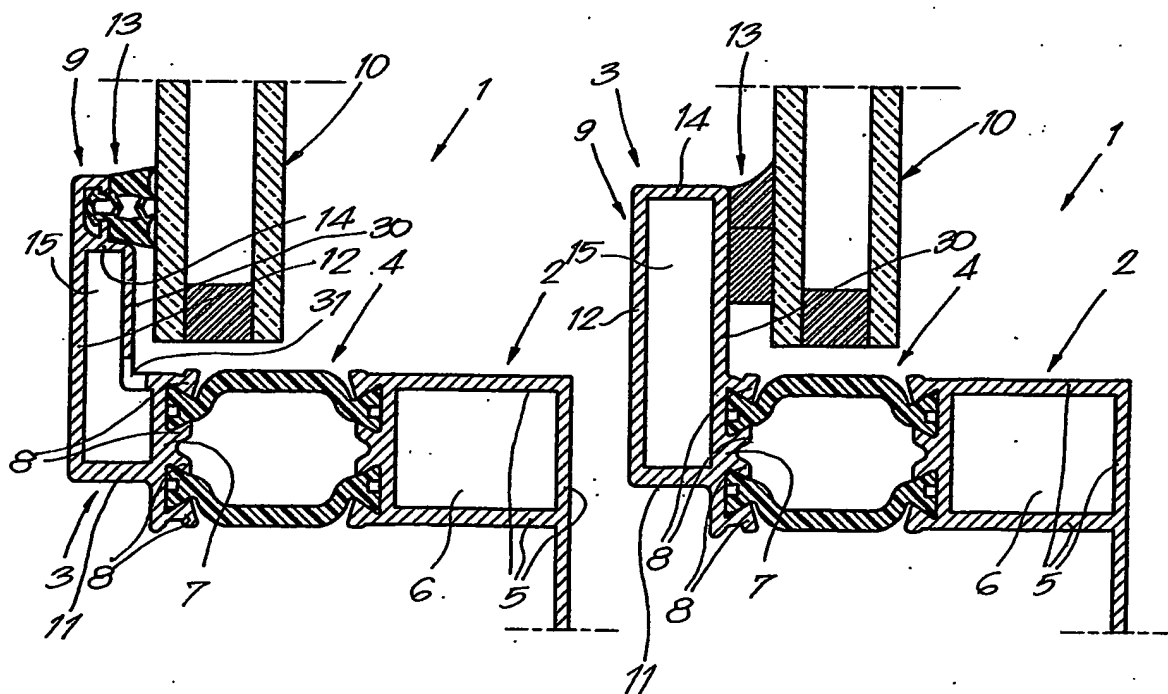
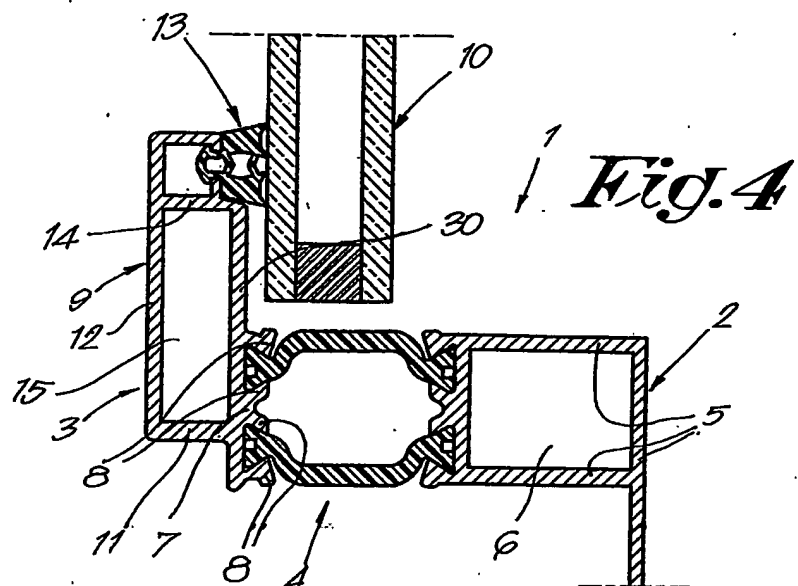
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Profile of a window frame or the like and sealing applied  
thereby.

The present invention concerns a profile of a window frame or the like, more particularly of a wing profile made of aluminium.

As is known, aluminium window profiles consist of an inner shell and an outer shell which are mutually connected by what is called a thermal bridge.

On the above-mentioned outer shell is hereby provided an inwardly directed reinforcement strip against which is placed a window panel by means of a sealing.

The known wing profiles of the window frame are hereby held together in a mounted position by means of insert angles which are made in the shape of a sash angle and which are each time fixed with one leg in the inner shell of a jamb and which are fixed with their other leg in the inner shell of an adjacent joist.

As is known, the above-mentioned insert angles are designed to compensate for the pressure which is exerted on the angles of the window frame by the window panel, which angles are forced open outwardly by the window panel, especially when the window panel is fixed in the window frame by means of keys.

A disadvantage of the known wing profiles is that the above-mentioned insert angles only act on the sleeves of the semi-shells of the window frame, as a result of which the reinforcement strips on the outer shell may diverge at the angles of the frame, which is undesirable from a constructional as well as an aesthetic point of view.

The present invention aims to remedy the above-mentioned and other disadvantages.

To this end, the present invention concerns a profile of a window frame, which window profile mainly consists of an inner shell and an outer shell which are mutually coupled by means of a thermal bridge, whereby the outer shell is provided with an inwardly directed reinforcement strip, characterised in that the outer shell is provided with a chamber which is confined by two opposite walls in between which can be clasped a leg of an insert angle, which walls extend crosswise to the surface of the window frame, whereby one wall is formed of a standing edge at or near the free end of the reinforcement strip, whereas the other wall is part of the outer perimeter of the window frame.

An advantage of the present invention is that the above-mentioned insert angle meshes on the farthest inner perimeter of the window frame and at the reinforcement strips, and thus prevents the reinforcement strips of an adjacent jamb and joist from being forced away from each other at an angle of the window frame, which allows for a better finish.

The present invention also concerns a sealing made of rubber or the like which can be applied for sealing window panes or as a rabbet between a window casement and a fixed window frame, which sealing mainly consists of two identical massive parts which are mutually connected by means of one or several flexible arms.

In order to better explain the characteristics of the invention, the following preferred embodiments of a window profile according to the invention, as well as a preferred embodiment of a sealing according to the invention, are described as an example only without being limitative in any way, with reference to the accompanying drawings, in which:

figure 1 represents a jamb or joist according to the invention;

figure 2 represents an angle joint between a jamb and a joist according to the invention;

figure 3 represents a sealing according to the invention to a larger scale;

figures 4 to 6 represent variants of figure 1.

Figure 1 represents a section of a profile 1 according to the invention, which can be applied in a window frame which is not represented in the figures, which profile 1 mainly consists of an inner shell 2 and an outer shell 3 which are mutually connected by means of a thermal bridge 4.

The inner shell 2 is of a known type which is formed of

four walls 5 confining a cavity 6, and it is not described in further detail.

Also the thermal bridge 4 is of a type known by the craftsman and it will not be further described here.

- 5 The outer shell 3 in this case consists of a body 7 which mainly extends in a direction parallel to the surface of the window frame and onto which are provided, as is known, several ribs 8 which work in conjunction with the above-mentioned thermal bridge 4.
- 10 On the outer shell 3 is also provided a reinforcement strip 9 which is directed towards the inside of the window frame and which serves as a support for a window panel 10 provided in the window frame.

The above-mentioned reinforcement strip 9 consists of an  
15 L-shaped profile with a first leg 11 provided crosswise on the body 7 and which is part of the outer perimeter of the window frame.

Crosswise to the free end of the above-mentioned first leg 11 is provided a second leg 12 which is directed inwardly in  
20 relation to the window frame and onto which is fixed a sealing 13 at the free end, which sealing is connected to the window panel 10.

Near the free end of the reinforcement strip 9 is provided a standing edge 14 on the above-mentioned second leg 12,  
25 such that a chamber 15 is defined whose above-mentioned



standing edge 14 and the second leg 12 form two opposite cross walls.

As represented in greater detail in figure 3, the above-mentioned sealing 13 according to the invention is  
5 composed of two identical massive parts 16 and 17 which are made of elastic material, such as rubber or the like, which parts 16-17 are mutually connected by flexible arms 18 and 19.

The massive parts 16-17 in this case have a cross  
10 section which narrows from the base 20, which forms the contact surface of the sealing 13, towards the top 21, which contact surface is in this case made concave.

Both massive parts 16 and 17 are provided with a standing rib 22 at their tops 21, which ribs 22 are connected to  
15 each other at their free ends by means of a cross collar 23 in order to form a foot for the sealing 13.

The above-mentioned flexible arms 18-19 are preferably bent in a direction towards each other, whereby the breakpoints 24 in both arms 18-19 are preferably situated in the  
20 middle of these arms 18-19.

Further, the sealing 13 is preferably zygomorphous around a shaft 25 through the above-mentioned breakpoints 24 in the arms 18-19.

Such a sealing 13 is advantageous in that, thanks to its  
25 symmetry, it is always oriented well for mounting.

Moreover, the flexible arms 18-19 make it possible to push the massive parts 16-17 towards each other when the sealing 13 is provided at right angles in the window frame, such that this sealing 13 according to the invention can  
5 be easily guided along an angle.

The use of the window profile 1 according to the invention is simple and as follows.

In order to compose a window frame, various profiles 1  
10 according to the invention are mitred and coupled to each other as jambs and joists by means of sash angle-shaped insert angles 26.

As represented in figure 2, the insert angle 26 is  
15 provided with one of its legs 27 in the chamber 15 of a jamb, whereas it is provided in the chamber 15 of an adjacent joist with its other leg 28, after which a lip 29 which is provided in the above-mentioned cross walls 11 of the chamber 15 of the joist as well as of the  
20 jamb is upset towards the inner side of the chamber 15, up against the insert angle 26, such that each leg 27-28 is clasped between the above-mentioned opposite walls 11 and 14 of the chamber 15 in the jamb and joist concerned respectively.

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Naturally, also in the cavity 6 in the inner shell 2 of the jamb and joist can be provided an insert angle 26 in order to further reinforce the strength of the window frame.

Figure 4 represents a variant of a profile 1 according to the invention, whereby an extra wall 30 is provided on the free end of the above-mentioned standing edge 14 which extends parallel to, or almost parallel to, the second leg 12 of the reinforcement strip 9 up to the outer shell 3.

Figure 5 represents another variant whereby the above-mentioned chamber 15 has an L-shaped cross section as the extra wall 30 is formed of an L-shaped profile.

This variant is designed for window frames which are mounted in outer walls, whereby one or several openings 31 are provided in the profile 1, which serves as the lower joist of the window frame, by cutting away a part of the above-mentioned extra wall 30.

These openings 31 serve as a water discharge channel for any moisture that might seep in in case of rain or the like between the window panel 10 and the sealing 13, which moisture is discharged from the chamber 15 via a hole that is created when the lip 29 is upset in the above-mentioned wall 11 in order to fix the insert angle 26.

In order to advance the discharge of moisture, holes are made in the above-mentioned extra wall 30 of the upper joist of the window frame or in the extra wall 30 at the top in the jambs of the window frame, as a result of which an air circulation is created which discharges the moisture to the outside via the above-mentioned holes in the lower joist.

This L-shaped chamber 15 is moreover advantageous in that the air circulation allows for a smooth heat dissipation, along the insert angles 26, of the outer walls of the profiles 1 which heat up under the influence of solar radiation.

By dissipating the heat on the outer walls of the profiles 1 is avoided that the outer walls of the profiles 1 expand to a large extent, as a result of which the sealing of the windows would be hampered.

Finally, figure 6 represents a variant in which the above-mentioned sealing 13 is realised in the form of a strip of silicones provided between the above-mentioned extra wall 30 and the window panel 10.

In this case, the above-mentioned standing edge 14 is situated on the free end of the reinforcement strip 9.

The present invention is by no means limited to the embodiments described as an example and represented in the accompanying drawings; on the contrary, such a profile and sealing according to the invention can be made in all sorts of shapes and dimensions while still remaining within the scope of the invention.

Claims.

- 1.- Profile of a window frame which is mainly composed of an inner shell (2) and an outer shell (3) which are mutually coupled by means of a thermal bridge (4), whereby  
5 the outer shell (3) is provided with an inwardly directed reinforcement strip (9) in relation to the window frame, characterised in that the outer shell (3) is provided with a chamber (15) which is confined by two opposite walls (11, 14) in between which can be clasped a leg of an  
10 insert angle (26), which walls (11, 14) extend crosswise to the surface of the window frame, one wall (14) of which is formed of a standing edge at the free end of the reinforcement strip (9) whereas the other wall (11) is part of the outer perimeter of the window frame.
- 15 2.- Profile according to claim 1, characterised in that the above-mentioned chamber (15) is rectangular.
- 3.- Profile according to claim 1, characterised in that  
on the free end of the above-mentioned standing edge  
(14) is provided an extra wall (30) which extends parallel  
20 to, or almost parallel to, the reinforcement strip (9) up to the outer shell (3).
- 4.- Profile according to claim 3, characterised in that the above-mentioned chamber (15) is made L-shaped.

5.- Profile according to claim 4, characterised in that openings (31) are provided in the above-mentioned extra wall (30).

6.- Sealing characterised in that it is mainly formed  
5 of two identical massive parts (16-17) which are mutually connected by means of one or several flexible arms (18-19).

7.- Sealing according to claim 6, characterised in that it is zygomorphous.

10 8.- Sealing according to claim 6, characterised in that it is made of an elastic material.

9.- Sealing according to claim 6, characterised in that the above-mentioned flexible arms (18-19) are provided with  
15 a breakpoint (24).

10.- Sealing according to claim 6, characterised in that the above-mentioned massive parts (16-17) have a cross section which narrows from their base (20), which forms the contact surface of the sealing, to their top (21).

20 11.- Sealing according to claim 10, characterised in that the base (20) of both massive parts (16-17) is made concave.

12.- Sealing according to claim 6, characterised in that the massive parts (16-17) are each provided with a standing  
25 rib (22) at their tops (21), which ribs (22) are mutually

connected by means of a cross collar (23).